

IN THE CLAIMS

1. A connector system for connecting an electrosurgical instrument to an electrosurgical generator, the connector system comprising:

a plug portion connectable to the electrosurgical instrument, said plug portion including a plurality of pins which extend outwardly therefrom and an electrical prong which extends outwardly therefrom; and

a plug receptacle portion disposed within the generator, said plug receptacle portion defining a recess for receiving said plug portion therein, said plug receptacle portion including a corresponding plurality of pin receptacles for receiving said pins from said plug portion and said plug receptacle also including a prong receptacle for receiving said prong, said prong receptacle including a smart connection which is backward compatible.

2. The connector system according to claim 1, wherein the plug portion includes a plug housing having a power pin extending therefrom.

3. The connector system according to claim 2, wherein the power pin is positioned closer to a first side edge of the plug housing than a second side edge thereof, wherein the second side edge is opposite the first side edge thereof.

4. The connector system according to claim 3, wherein the plug portion further includes at least one position pin extending from the plug housing.

5. The connector system according to claim 4, wherein a first position pin extends from a center of the plug housing and in substantially the same direction as the power pin.
6. The connector system according to claim 5, wherein a second position pin extends from the plug housing at a location off-set from the center thereof and in the same direction as the power pin.
7. The connector system according to claim 2, further comprising a prong extending from the plug housing and substantially in the same direction as the power pin.
8. The connector system according to claim 7, wherein the prong is positioned closer to a first side edge of the plug housing than a second side edge thereof, wherein the second side edge is opposite the first side edge thereof.
9. The connector system according to claim 8, wherein the plug portion includes a first position pin extending from a center of the plug housing and in substantially the same direction as the power pin, wherein the prong is positioned between the power pin and the first position pin.

10. The connector system according to claim 9, wherein the prong includes a plurality of electrical contacts.
11. The connector system according to claim 10, wherein the prong has a first geometry and said receptacle has a second geometry which is matingly compatible with said first geometry of said prong.
12. The connector system according to claim 10, wherein the prong has at least one of a generally L-shaped cross-sectional profile and a rectilinear-shaped profile.
13. The connector system according to claim 10, wherein the plug receptacle portion includes a housing operatively retained in the electrosurgical generator and defining a recess for receipt of the plug portion therein.
14. The connector system according to claim 13, wherein the plug receptacle portion includes a prong receptacle formed therein, the prong receptacle being shaped and dimensioned to receive the prong therein.
15. The connector system according to claim 14, wherein the plug receptacle portion includes a plurality of apertures formed therein for receiving the power pin and the position pins therein.

16. The connector system according to claim 15, wherein each aperture includes a contact terminal operatively associated therewith.
17. The connector system according to claim 15, wherein the prong receptacle has an L-shaped cross-sectional profile.
18. The connector system according to claim 17, wherein the L-shaped cross-sectional profile blocks insertion of a plug portion into the plug receptacle portion which is upside down.
19. The connector system according to claim 16, wherein the plug receptacle portion includes at least one contact pin extending therethrough.
20. The connector system according to claim 19, wherein the contact pins are positioned to contact a respective one of the electrical contacts of the prong.
21. The connector system according to claim 20, wherein the prong has an overall width which is less than about 0.43 inches and an overall height which is less than about 0.38 inches.
22. The connector system according to claim 21, wherein the prong receptacle has an overall width which is greater than about 0.39 inches and an overall height which is greater than about 0.324 inches.

23. The connector system according to claim 14, further comprising a tactile feedback mechanism for providing positive feedback to the user that the plug portion has been properly inserted into the plug receptacle portion.

24. The connector system according to claim 23, wherein the tactile feedback mechanism includes:

a first post extending through and pivotally supported on the plug receptacle portion, wherein the first post is spring biased;

a second post extending through and supported on the plug receptacle portion;

a linkage member extending between the first post and the second post, the linkage member including a first arm extending radially from the first post and a second arm supported on and extending from the second post; and

a camming pin extending through a distal end of the first arm, the camming pin including:

a first portion slidably receivable in an elongate slot formed in the second arm;

a second portion slidably receivable in an arcuate slot formed in the prong receptacle, the second portion extending an amount sufficient to engage a groove formed in a lower surface of the prong; and

a spring positioned to bias the first portion to a distal-most position of the elongate slot.

25. The connector system according to claim 2, wherein the plug portion includes symbology provided on a surface thereof.

26. The connector system according to claim 25, wherein the symbology includes information regarding the operative parameters of the electrosurgical instrument.

27. A connector system for coupling electrosurgical instruments to electrosurgical generators, the connector system comprising:

a plug portion connectable to an electrosurgical instrument, the plug portion of the electrosurgical instrument having a shape specific to a particular manufacturer; and

a plug receptacle portion supported on the electrosurgical generator; the plug receptacle portion being shaped to receive the plug portion of the electrosurgical instrument of the particular manufacturer and the plug portion of the electrosurgical instrument of any other manufacturer.

28. The connector system according to claim 27, wherein the plug portion further includes a power pin extending therefrom, wherein the power pin is closer to one side edge of the plug portion than an opposite side edge thereof.

29. The connector system according to claim 27, wherein the plug portion further includes a prong having a particular shape extending therefrom.
30. The connector system according to claim 29, wherein the prong includes at least one electrical contact.
31. The connector system according to claim 30, wherein the prong has an L-shaped cross-sectional profile.
32. The connector system according to claim 30, wherein the plug receptacle portion includes a prong receptacle formed therein configured and dimensioned to receive the prong therein.
33. The connector system according to claim 32, wherein the prong receptacle includes at least one pin extending therefrom for contact with a corresponding electrical contact.
34. The connector system according to claim 27, further comprising a tactile feedback mechanism for providing positive feedback to the user that the plug portion has been properly inserted into the plug receptacle portion.

35. The connector system according to claim 27, wherein the plug portion includes symbology provided on a surface thereof, the symbology including information regarding the operative parameters of the electrosurgical instrument.

36. The connector system according to claim 32, wherein the prong has an overall width which is less than about 0.43 inches and an overall height which is less than about 0.38 inches.

37. The connector system according to claim 36, wherein the prong receptacle has an overall width which is greater than about 0.39 inches and an overall height which is greater than about 0.324 inches.

38. The connector system according to claim 32, wherein the prong receptacle has an L-shaped cross-sectional profile and the prong has one of a rectangular and L-shaped cross-sectional profile sized to be received in the prong receptacle.

39. The connector system according to claim 32, wherein the prong receptacle is configured and dimensioned to block insertion of a plug portion therein which is in an incorrect orientation.

40. A connector system for connecting an electrosurgical instrument to an electrosurgical generator, the connector system comprising:

a plug portion and a plug receptacle portion disposed on said generator, said plug portion including a plurality of mechanical interfaces which selectively mate with a corresponding plurality of mechanical interfaces in said plug receptacle portion;

a tactile feedback mechanism for providing positive feedback to the user that the mechanical interfaces of said plug portion have been properly mated with said corresponding mechanical interfaces of said plug receptacle portion, said tactile feedback mechanism including:

a pair of first and second posts extending through and pivotally supported on the plug receptacle portion;

a linkage member extending between the first post and the second post, the linkage member including a first arm extending radially from the first post and a second arm supported on and extending from the second post; and

a camming pin extending through a distal end of the first arm wherein upon insertion of the plug portion into the receptacle portion said camming pin rides along a slot disposed in said second arm to initially compress a spring which subsequently expands to drive the camming pin through the slot thus towing said prong portion into prong receptacle portion.